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Yen

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(54) **LAMP COLOR TEMPERATURE CHANGE STRUCTURE**

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(52) **U.S. Cl.**
CPC ***F21V 17/02*** (2013.01)
USPC **362/280**; 362/293

(58) **Field of Classification Search**
USPC 362/270, 271, 272, 280, 293
See application file for complete search history.

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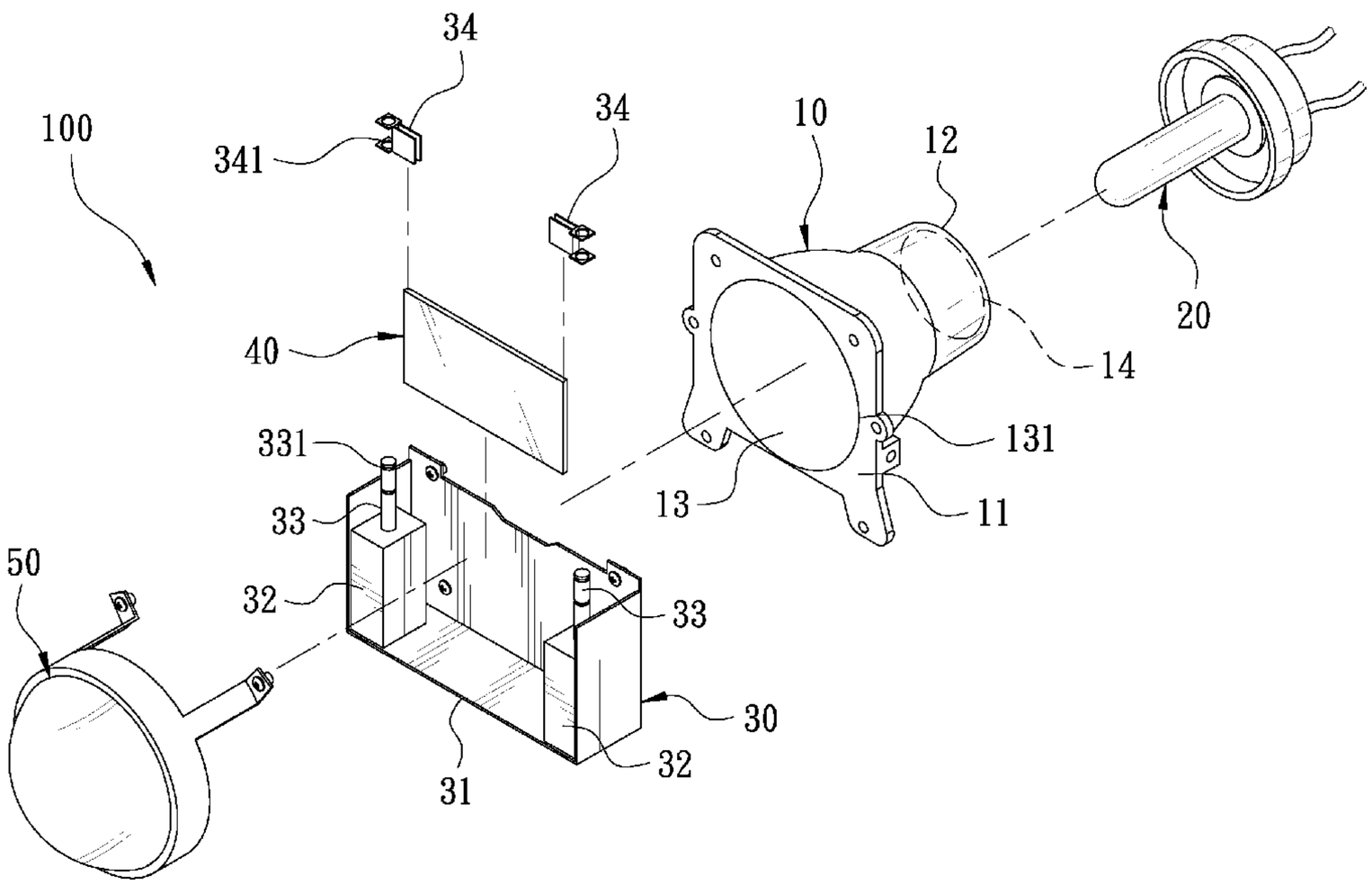
(57) **ABSTRACT**

A lamp color temperature change structure includes a lamp holder, a light source on the lamp holder, a lift unit in front of the light source, and a colored lens mounted to the lift unit. The colored lens is movable and driven by the lift unit to a first position which is away from the front of the light source or a second position which is in front of the light source. The user can select the light from the light source to radiate toward the front of the lamp holder or penetrate the colored lens to generate a color temperature change and then radiate toward the front of the lamp holder according to different environment conditions.

8 Claims, 6 Drawing Sheets



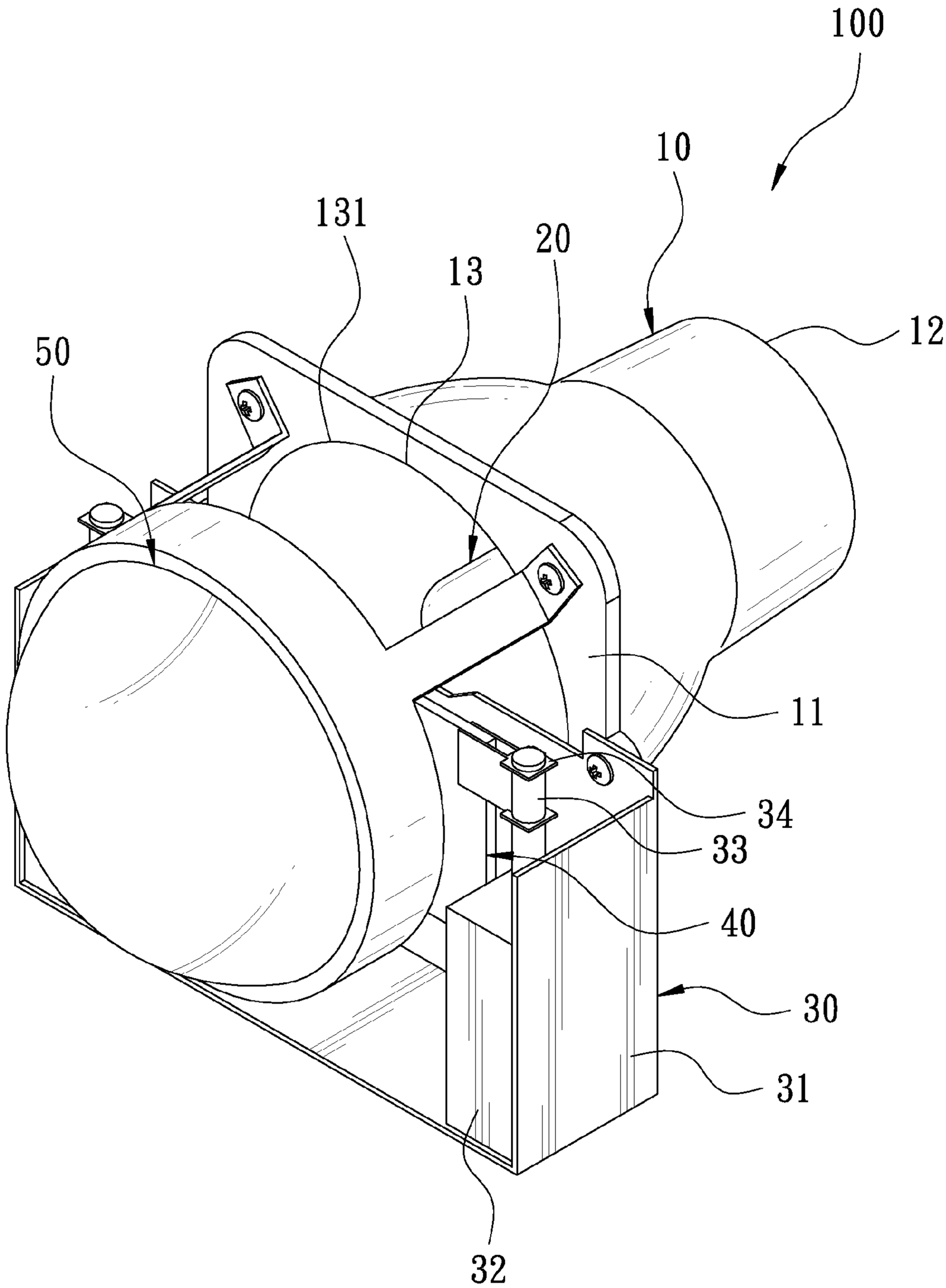


FIG. 1

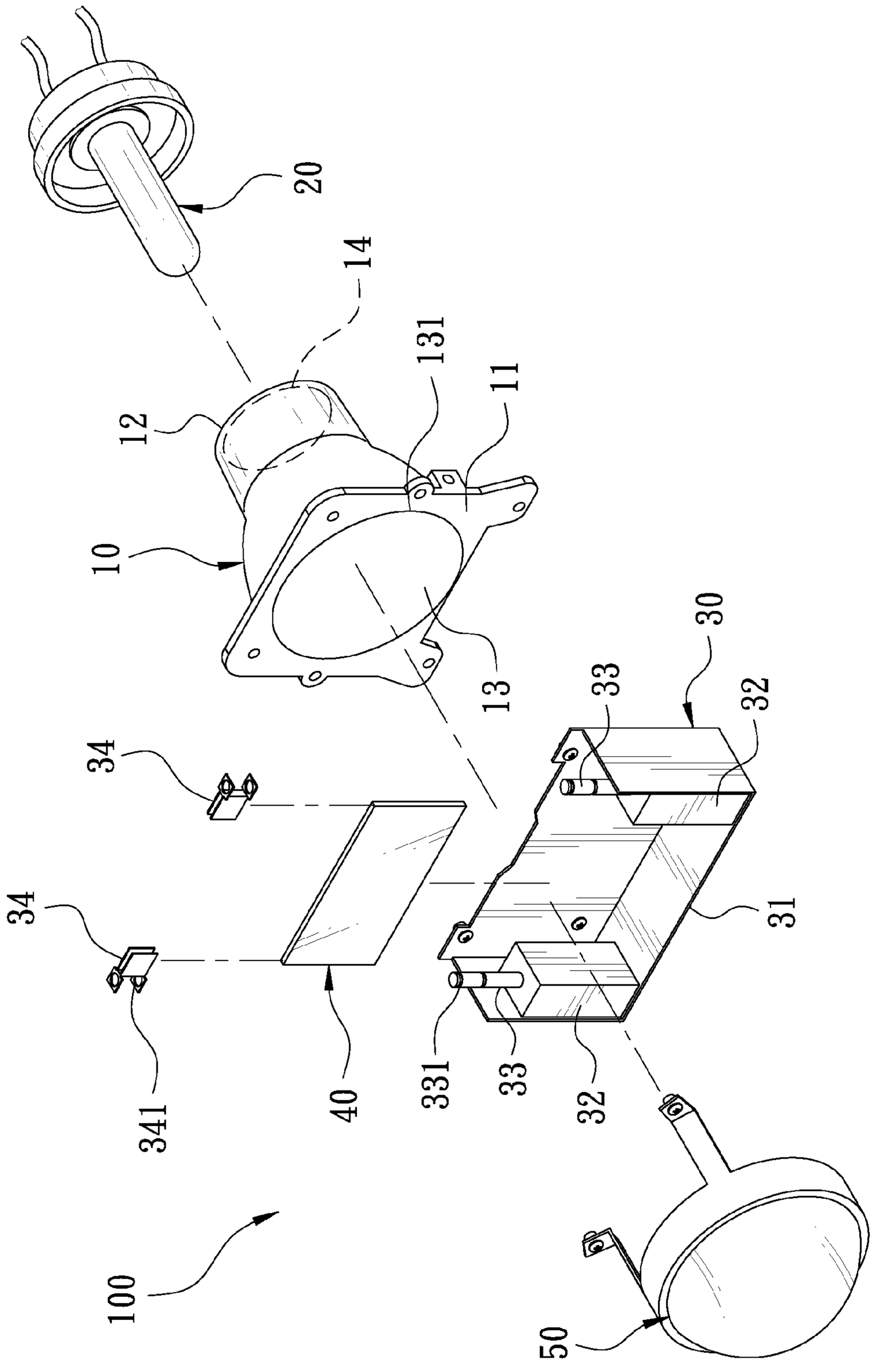


FIG. 2

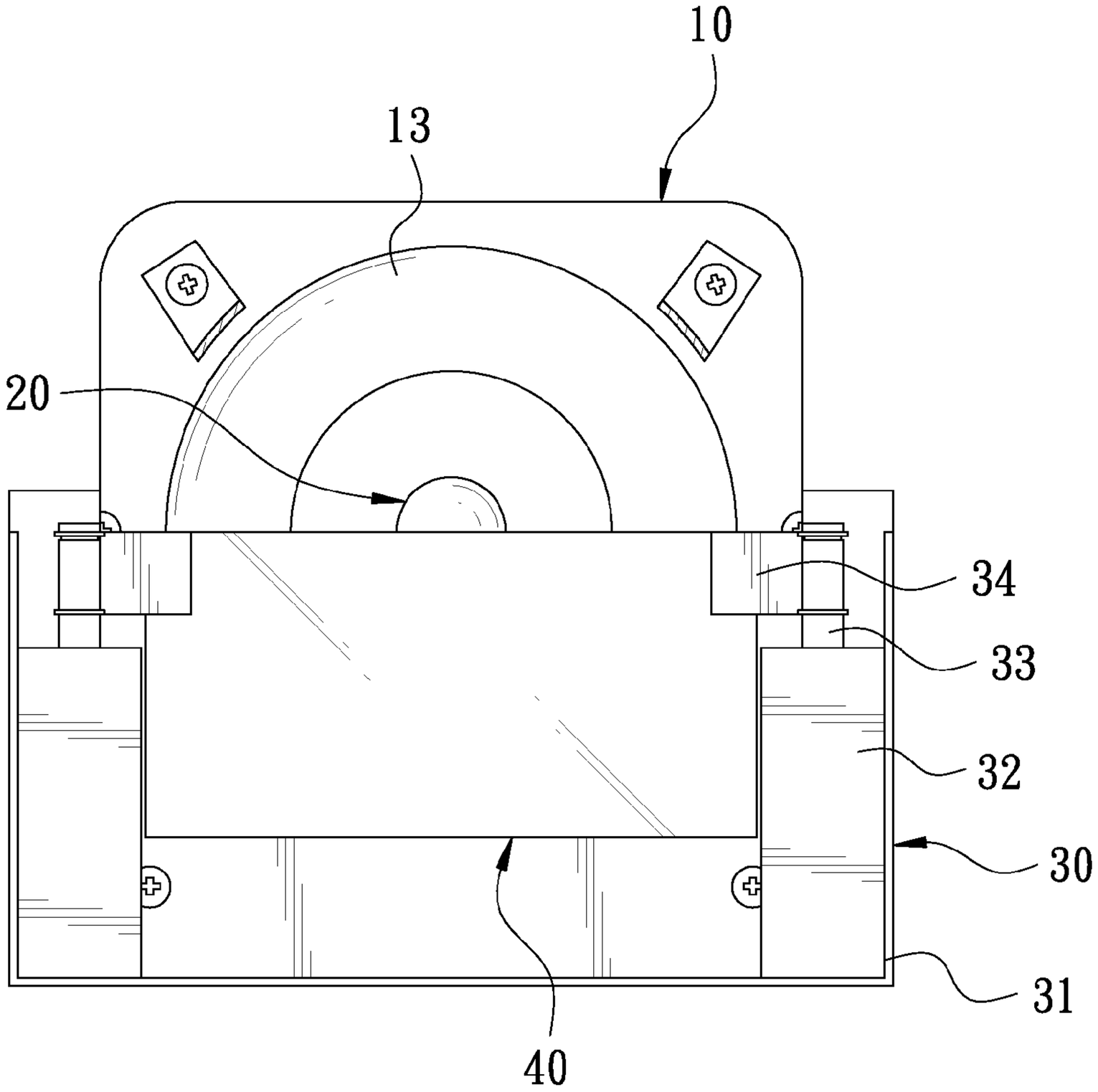


FIG. 3

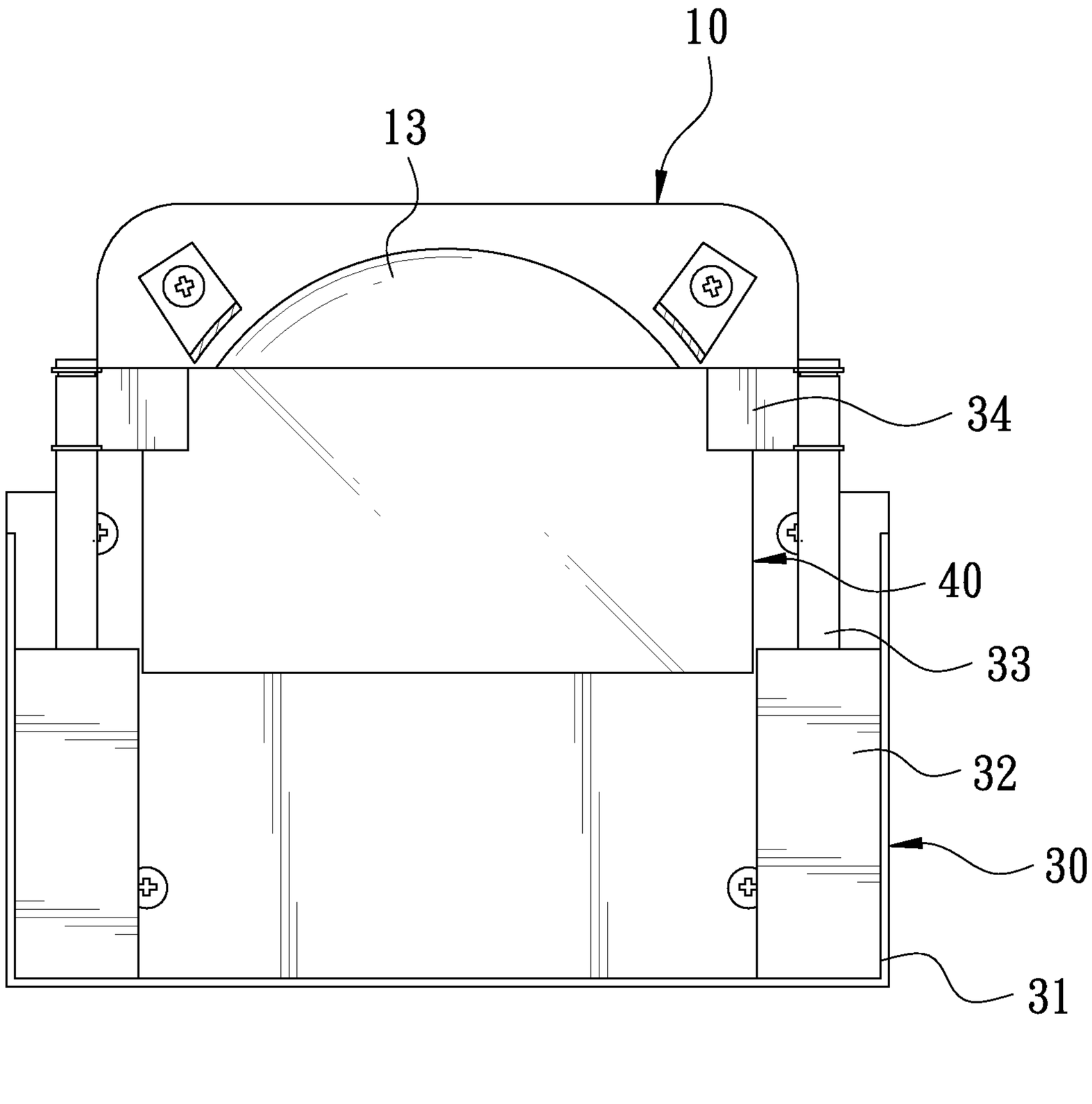


FIG. 4

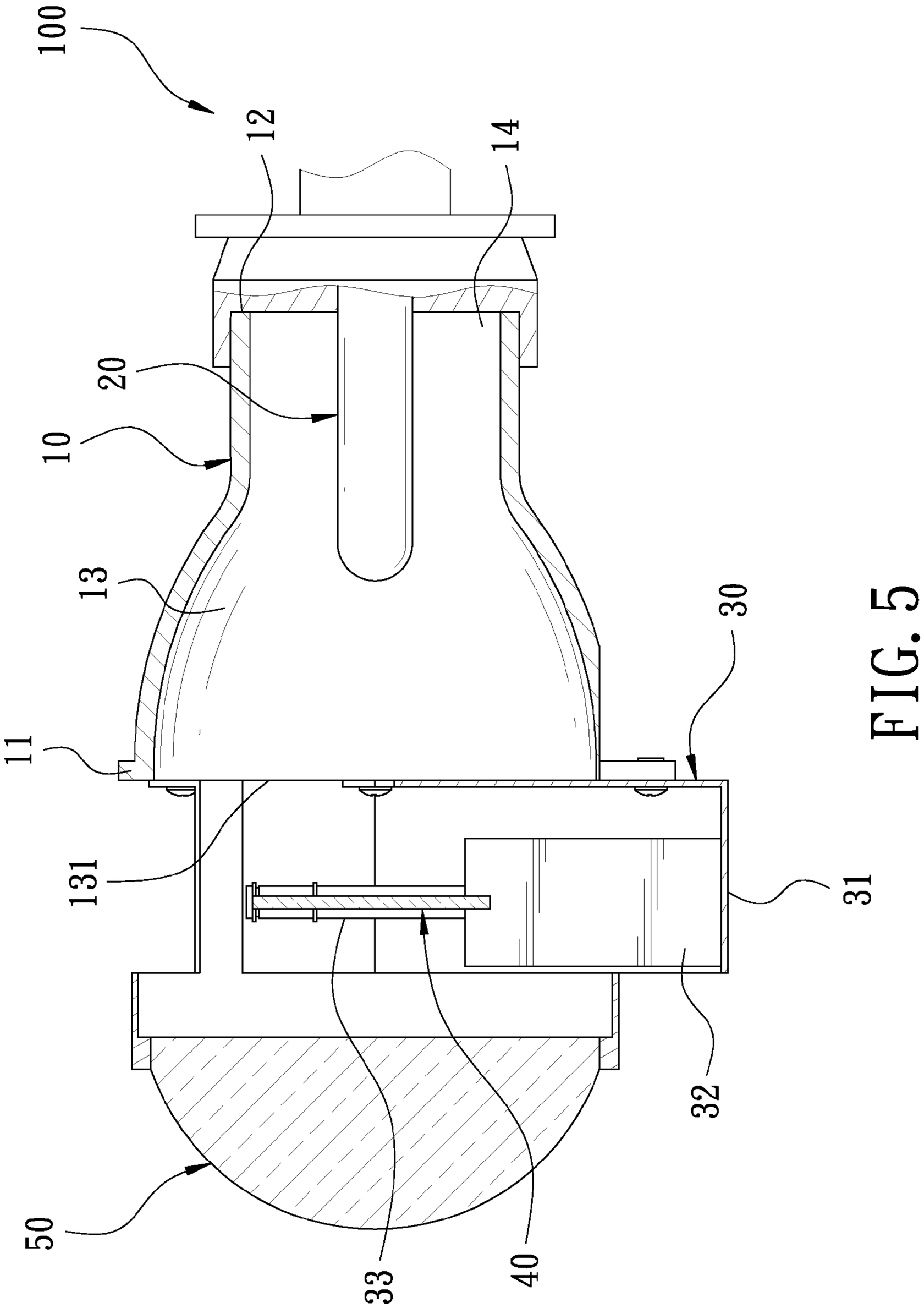


FIG. 5

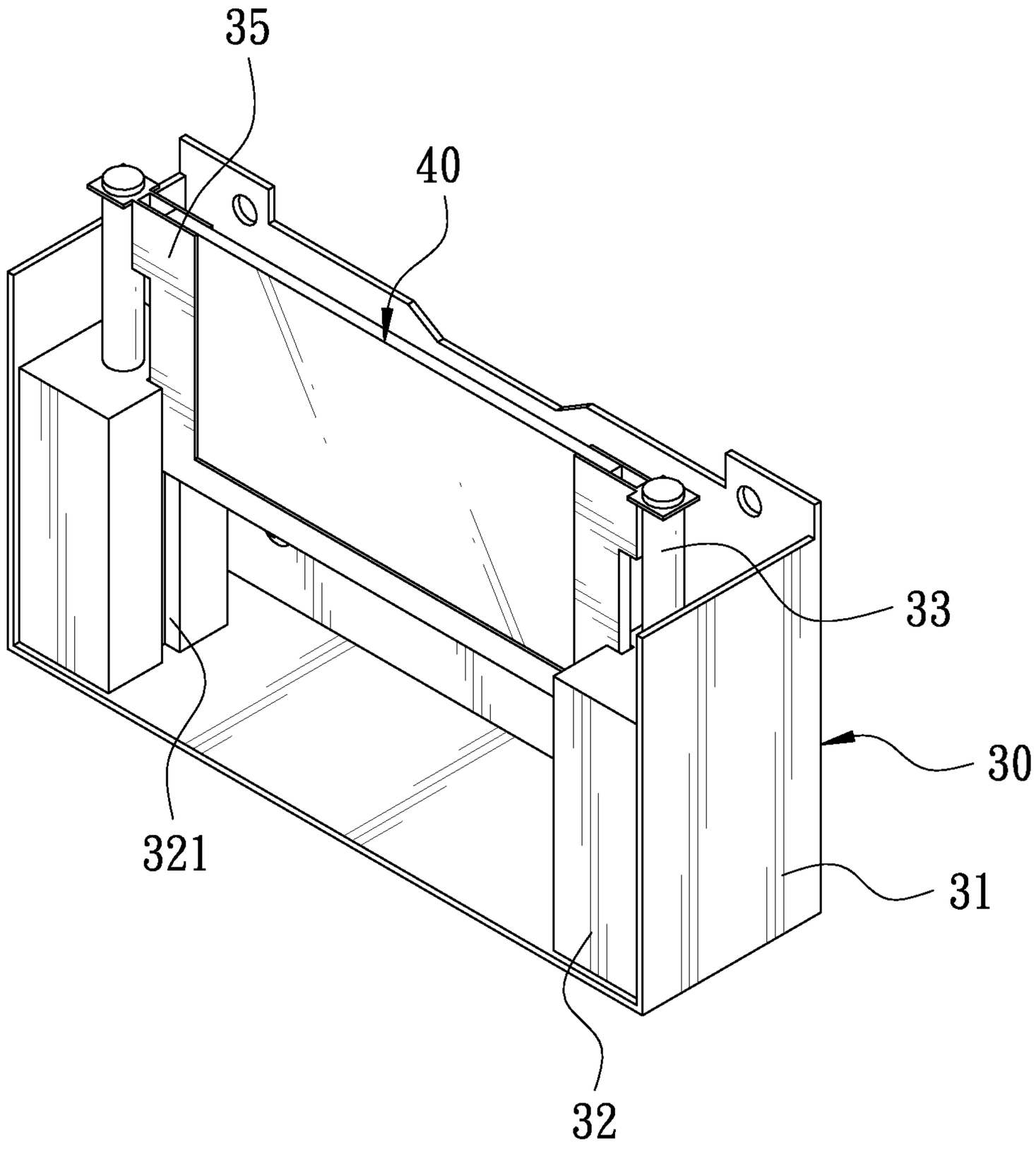


FIG. 6

LAMP COLOR TEMPERATURE CHANGE STRUCTURE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a lamp color temperature change structure.

2. Description of the Prior Art

A conventional lamp comprises a lamp holder. The front side of the lamp holder has a concave reflection trough to form an opening. The lamp holder comprises a bulb therein. Thus, the light from the bulb is reflected by the reflection trough to center and radiate toward the front of the lamp through the opening.

However, the light with different color temperate has a different illumination property. A vehicular lamp is as an example. When the color temperature is at a range of 2300K to 3800K, the light is yellowish and has a better penetration to provide a better illumination effect for a rain or foggy day.

When the color temperature is over 4200K, the light becomes white. When the color temperature is over 6000K, the light becomes blue. The light is more brilliant but the penetration is lowered so it is not adapted for a rain or foggy day. Accordingly, the inventor of the present invention has devoted himself based on his many years of practical experiences to solve these problems.

SUMMARY OF THE INVENTION

The primary object of the present invention is to provide a lamp color temperature change structure to adjust a desired color temperature according to different environment conditions.

In order to achieve the aforesaid object, the lamp color temperature change structure of the present invention comprises a lamp holder, a light source, a lift unit and a colored lens. The lamp holder has a front side and a rear side opposite to the front side. The front side of the lamp holder has a concave reflection trough to form an opening. The light source is disposed in the reflection trough. The lift unit is disposed on the lamp holder in front of the light source. The lift unit comprises at least one driving member. The driving member is connected with at least one lift rod. The colored lens is mounted to the lift rod. The colored lens is movable and driven by the lift rod to a first position or a second position relative to the light source. When the colored lens is moved to the first position, the colored lens is away from the front of the light source. When the colored lens is moved to the second position, the colored lens is in front of the light source.

When the colored lens is moved to the first position, the colored lens will be away from the front of the light source and the light source will direct radiate toward the front of the lamp holder. When the colored lens is moved to the second position, the colored lens will be in front of the light source. The light from the light source first penetrates the colored lens to generate a color temperature change and then radiates toward the front of the lamp holder. Thus, the lamp color temperature change structure will have a color temperature change function for a desired color temperature according to different environment conditions.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view according to a preferred embodiment of the present invention;

FIG. **2** is an exploded view according to the preferred embodiment of the present invention;

FIG. **3** is a transverse sectional view according to the preferred embodiment of the present invention;

FIG. **4** is a transverse sectional view showing operation of the preferred embodiment of the present invention;

FIG. **5** is a vertical sectional view showing operation of the preferred embodiment of the present invention; and

FIG. **6** is a perspective view according to another embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings.

FIG. **1** is a perspective view according to a preferred embodiment of the present invention. FIG. **2** is an exploded view according to the preferred embodiment of the present invention. FIG. **3** is a transverse sectional view according to the preferred embodiment of the present invention. The present invention discloses a lamp color temperature change structure **100** which can be applied to various lamps. In this embodiment, the lamp color temperature change structure **100** is applied to a vehicular fish-eye lamp. The lamp color temperature change structure **100** comprises a lamp holder **10**, a light source **20**, a lift unit **30** and a colored lens **40**.

The lamp holder **10** has a front side **11** and a rear side **12** opposite to the front side **11**. The front side **11** of the lamp holder **10** has a concave reflection trough **13** to form an opening **131**. The rear side **12** of the lamp holder **10** has a fixing hole **14** which communicates with the reflection trough **13**.

The light source **20** is disposed in the reflection trough **13**. In this embodiment, the light source **20** is an HID (High intensity discharge) bulb and coupled to the fixing hole **14** of the lamp holder **10**.

The lift unit **30** is disposed on the lamp holder **10** and in front of the light source **30**. The lift unit **30** comprises a fixing frame **31** connected to the front side **11**. The fixing frame **31** is provided with at least one driving member **32**. The driving member **32** is connected with at least one lift rod **33**. The driving member **32** is one of a solenoid valve, a press cylinder and a motor. When the driving member **32** is a motor, the lift rod **33** is a spiral rod. In this embodiment, the lift unit **30** comprises two driving members **32**. The driving members **32** are solenoid valves which are located at two opposing sides of the opening **131**. Each driving member **32** is connected with one lift rod **33**. The distal end of the lift rod **33** is provided with a gripper **34**. The distal end of the lift rod **33** has two engaging grooves **331** and the gripper **34** has corresponding engaging rings **341** to be secured to the engaging grooves **331**, so that the gripper **34** is secured to the distal end of the lift rod **33**.

The colored lens **40** is mounted to the lift rod **33**. As shown in FIG. **3**, the colored lens **40** is movable and driven by the lift rod **33** to a first position or to a second position, as shown in FIG. **4**, relative to the light source **20**. When the colored lens **40** is moved to the first position, the colored lens **40** is away from the front of the light source **20**. When the colored lens **40** is moved to the second position, the colored lens **40** is in front of the light source **20**. In this embodiment, two opposing sides of the colored lens **40** are connected to the grippers **34**, so the colored lens **40** is located between the two lift rods **33**.

A convex lens **50** is fixed to the front side **11** of the lamp holder **10** and located in front of the lift unit **30**.

FIG. **4** and FIG. **5** are schematic views showing operation of the preferred embodiment of the present invention. In a normal state, the colored lens **40** is located at the first position, as shown in FIG. **3**, away from the light source **20**. When the light source **20** is turned on, the light source **20** direct radiates toward the front of the lamp holder **10** to provide illumination for a vehicle. When the user wants to change the color temperature, he/she just controls the lift unit **30**. The driving members **32** of the lift units **30** will drive the lift rods **33** to bring the colored lens **40** to the second position, as shown in FIG. **4**. The colored lens **40** is located in front of the light source **20**, so the light from the light source **20** first penetrates the colored lens **40** to generate a color temperature change, and then radiates toward the front of the lamp holder **10**. Thus, the lamp color temperature change structure **100** will have a color temperature change function for a desired color temperature according to different environment conditions. For example, in this embodiment, the light source **20** uses an HID bulb of 6500K and the colored lens **40** is a yellow lens, so that the lamp color temperature change structure **100** provides a better illumination effect. When there is rain or mist, the colored lens **40** can be adjusted to the second position. The light penetrates the colored lens **40** to be filtered to become yellow light, increasing the penetration of the light to enhance the safety of driving.

FIG. **6** is a perspective view according to another embodiment of the present invention, which is substantially similar to the aforesaid embodiment with the exceptions described hereinafter. The driving members **32** have slide grooves **321** at respective sides thereof. A frame **35** is connected between the lift rods **33**. The colored lens **40** is disposed in the frame **35**. The two opposing sides of the colored lens **40** slide in the slide grooves **321**, having the same effect as the aforesaid embodiment. The colored lens **40** can be steady adjusted by the lift unit **30** and won't shake easily.

Although particular embodiments of the present invention have been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the present invention. Accordingly, the present invention is not to be limited except as by the appended claims.

What is claimed is:

1. A lamp color temperature change structure, comprising:

a lamp holder having a front side and a rear side opposite to the front side, the front side of the lamp holder having a concave reflection trough to form an opening;

a light source disposed in the reflection trough;

a lift unit disposed on the lamp holder in front of the light source, the lift unit comprising at least one driving member, the driving member being connected with at least one lift rod; and

a colored lens mounted to the lift rod, the colored lens being movable and driven by the lift rod to a first position or a second position relative to the light source, wherein, when the colored lens is moved to the first position, the colored lens is away from the front of the light source, when the colored lens is moved to the second position, the colored lens is in front of the light source;

the lift unit is disposed at the front side of the lamp holder and comprises two driving members, the two driving members being located at two opposing sides of the opening, each driving member being connected with the lift rod, the colored lens being connected between the lift rods of the two driving members;

a distal end of the lift rod of each driving member is provided with a gripper, the grippers of the lift rods of the two driving members being adapted to grip two opposing sides of the colored lens.

2. The lamp color temperature change structure as claimed in claim **1**, wherein the two driving members have slide grooves at respective sides thereof and two opposing sides of the colored lens slide in the slide grooves.

3. The lamp color temperature change structure as claimed in claim **1**, wherein the lift unit further comprises a frame connected between the lift rods of the two driving members and the colored lens is disposed in the frame.

4. The lamp color temperature change structure as claimed in claim **1**, wherein the lift unit further comprises a fixing frame connected to the front side of the lamp holder and the driving member is mounted to the fixing frame.

5. The lamp color temperature change structure as claimed in claim **1**, wherein the lift unit further comprises a fixing frame connected to the front side of the lamp holder and the two driving members are mounted to the fixing frame.

6. The lamp color temperature change structure as claimed in claim **1**, wherein the driving member is a solenoid valve.

7. The lamp color temperature change structure as claimed in claim **1**, wherein the driving member is a motor and the lift rod is spiral rod.

8. The lamp color temperature change structure as claimed in claim **1**, wherein the driving member is a press cylinder.

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